urea. He believes that carbonic and oxalic acids are formed with the urea, but is not positive on this point, although he sometimes found crystals resembling those of oxalate of urea. (*Archiv. für die Holland. Beiträge zur Natur- und Heilk*,, Band 3, Heft 2, 1862.)

In the same number is contained a summary of the results of Van Deen's experiments. He has obtained by means of the continuous current—1, from *albumen;* cells resembling cytoid corpuscles; a substance insoluble in water (fibrin?); urea; allantoin; and uric acid (very probably): 2, from *mucus;* morphological elements; uric acid; and urea: 3, from *uric acid;* urea and allantoin: 4, from *glycin;* urea: 5, from *thein*, urea: 6, from *glycerine;* sugar and lactic acid: 7, from *inosite;* lactic acid: 8, from the *lactate, formiate, acetate*, and *butyrate of lime;* carbonate of lime and water: 9, from *tartrate of lime;* carbonate and oxalate of lime: 10, from *gum;* carbonate and oxalate of lime, and water: 11, from *mannite;* sugar: 12, from *amygdalin;* sugar; hydrocyanic acid; and probably volatile oil of almonds: 13, from *tannic acid;* sugar and gallic acid: 14, from *salicin;* sugar and saligenin or saliretin. Electricity has no influence on starch, dextrin, glycogen, or sugar. He has also subjected various substances to the action of ozone, with the following results: 1, from *uric acid;* urea and allantoin: 2, from *glycin;* urea: 3, from *glycerine;* sugar, and very probably lactic acid. Ozone appears to have influence on starch. Nitric acid and heat produce sugar from starch, the *corpora amylacea*, mannite and gum. The fresh pancreas of a dog, whether the reaction was or was not acid, produced fatty acids, glycerine and sugar from butter; and sugar from glycerine. At a temperature of 104° Fahr. calves' liver produced glycogen and sugar from glycerine, sugar from starch, and, at the ordinary temperature sugar from dextrin.—*Brit. Med. Journ.*, Jan. 17, 1863.

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5. *Effects of the Preparations of Iron on the Tissue-change.*—Dr. Pakrowsky, of St. Petersburg, has directed particular attention to the effects of iron on the tissue change, in patients at the hospitals at St. Petersburgh, who were taking that article for different diseases. He measured daily in all the patients the temperature of the body, the amount of the food consumed, the amount of the excrements, and of the urine, with the specific gravity of the latter, and the amount of chlorides and urea it contained.

The following are his conclusions:—

1. The temperature of the body is positively heightened by the use of these preparations.
2. This increase results in some cases very soon; in one case it occurred after five hours; in others slower, and in one case a long interval and after a large dose.
3. The temperature, the morbidly lowered as well as normal one, is increased; and if it ceases to rise after reaching a certain height, having taking a certain quantity of the iron, the temperature will rise more by increase of the dose.
4. Several days after using it the pulse rises also, although not in all cases.
5. Very soon, and consequent upon the increase of the temperature, the daily amount of urea in the urine increases.
6. The use of iron increases the weight of the body.
7. Every preparation of iron produces the same effect, and a change in the different preparation in the same patient does not alter the result.
8. The diuretic effect of citrate of iron was very distinct in two cases, but was wanting in three under the same conditions.
9. In all cases where iron was used no constipation of the bowels took place, except a slight one after iodide and lactate of iron. It was borne well, and in large doses, by the digestive apparatus (nine grains pyrophosphate of iron, and fifteen grains ferrum hydragenio reductum).
10. Dropsical transudations in the subcutaneous cellular tissue were resorbed by the use of iron, even in patients with insufficiency of the mitral valve, and reappeared after stopping with the remedy.
11. The increase of the heart's impulse and the dyspnœa in patients with organic cardiac diseases disappeared even in cases in which digitalis had done nothing.

12. After the normal temperature of the body had been raised by the use of iron, it lasted a considerable time after stopping with its use before returning to its normal condition; whilst the morbid lowered temperature rose quickly by the use of iron, it fell just as quickly by stopping with its use—at least, where the other pathological symptoms continued, and where consequently the cause of the low temperature was not cured.

Referring to these facts, the Doctor lays down the following maxims: Taking into consideration that the temperature of the body and the quantity of urea in the urine is increased by the use of iron, that the œdematous condition disappears and the weight of the body is augmented, we are fully justified in ascribing to the iron a nutritive power. The increase of temperature indicates a stronger tissue-change, for this is constant, and accompanied by other symptoms indicating a heightened nutrition. How this is brought about it is difficult to say. Increase of the blood quantum or of the blood corpuscules cannot be the cause; both increase very slowly, whilst the change of tissue augments very quickly. Neither can the increase of the pulse explain the elevated temperature, as the first succeeds the latter. The respiration is not altered by the iron, hence can not have an influence upon the temperature.

According to Dr. Pakrowsky, we have, therefore, to look for the effect of iron in the finest arterial and capillary system, one of the most important places of nutrition, and the growth of the tissue and organs, and so much more, as the disappearance of dropsical transudations in the subcutaneous cellular tissue after the use of iron, points to that system. The most probable is the supposition that the iron acts upon the contractile elements of the finest arterial branches, which must have, without doubt, a high and important influence upon the capillary circulation, and, namely, upon the degree of the tonics, *i. e.*, the degree of tension of the walls of these ramifications. The iron must consequently alter the conditions of the diffusion of the elements composing the tissue and organs. Only in this way does it seem possible to explain the quick effect of iron upon nutrition and the resorption and the œdematous transudations.—*Cincinnati Lancet and Observer*, July, 1862, from *Virchow's Archiv*, xxii., 1861.

6. *Experiments on the Influence of Ozonized Air upon Animals.*—Dr. W. W. IRELAND relates (*Edinburgh Med. Journ.*, Feb. 1863) some carefully performed experiments instituted to determine the influence of ozonized air upon animals. The following are his conclusions:—

1. Ozonized air accelerates the respiration, and, we may infer, the circulation.
2. Ozonized air excites the nervous system.
3. Ozonized air promotes the coagulability of the blood, probably by increasing its fibrin. In the blood, however, ozone loses its peculiar properties, probably entering into combination with some of the constituents of the circulating fluid.
4. Animals can be subjected to the influence of a considerable proportion of ozone in the air for hours without permanent injury; but in the end ozone produces effects which may continue after its withdrawal and destroy life.

## MATERIA MEDICA AND PHARMACY.

7. *Albuminate of Iron and Soda as a Therapeutic Agent.*—M. ANGELICO FABRI says that simple contact, at the ordinary temperature of the atmosphere, of white of egg with a salt of iron and soda, is capable of instantly producing a soluble albuminate of iron and soda, or an albuminferate of the alkaline base. The chemical combination of this compound is such that it is not altered by the yellow ferrocyanide of potassium, the most delicate test of the salts of iron, unless a few drops of acid—as, for example, hydrochloric—be previously added to the soluble albuminate, thus proving that this decomposition cannot be